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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,514	10/23/2003	Zhongwen Zhu	P18149US1	6067
7590		11/20/2007		
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			EXAMINER	
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			ART UNIT	PAPER NUMBER
			2614	
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			11/20/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/690,514

Applicant(s)

ZHU, ZHONGWEN

Examiner

Quynh H. Nguyen

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10-16 is/are rejected.
- 7) ☒ Claim(s) 8, 9, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date: _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by admitted prior art Jensen et al. (2002/0018554).

As to claim 1, Jensen et al. teaches a method for optimizing end-user service using a Virtual Queuing Support System comprising:

detecting a problematic situation associated with a virtual queue from a plurality of virtual queues (paragraph [0018] - *where Jensen discussed expected with time exceeds a threshold value*); and

taking an action for correcting the problematic situation (paragraph [0018], lines 11-20);

wherein the action comprises at least one of reassigning at least one end user from the virtual queue associated with the problematic situation to another virtual queue from the plurality of virtual queues, and reassigning at least one new service agent from one of the other queues of the plurality of virtual queues to the virtual queue associated with the problematic situation (paragraphs [0018], lines 11-20; [0021]).

As to claims 2 and 11, Jensen et al. teaches the steps of: collecting virtual queue status information related to each virtual queue of the plurality of virtual queues, and agent status information (paragraph [0022] - *where Jensen discussed the number of agents eligible to receive a call of a particular type, the number of calls of that type currently queue, etc*); and calculating at least one quality parameter associated with each virtual queue of the plurality of virtual queues (paragraphs [0023] - [0024]); wherein step a comprising comparing the at least one quality parameter with at least one pre-set threshold (paragraph [0023]).

As to claims 3 and 12, Jensen et al. teaches at least one quality parameter comprises an average queue speed of the virtual queue (paragraph [0023]).

As to claims 4 and 13, Jensen et al. teaches at least one quality parameter comprises an average expected waiting time related to the last end-user of the virtual queue (paragraphs [0018] and [0022]).

As to claims 5 and 14, Jensen et al. teaches the queue status information includes a number of registered users of a queue ([0022], line 10).

Claim 10 is rejected for the same reasons as discussed above with respect to claim 1. Furthermore, Jensen et al. teaches a memory for storing a plurality of virtual queues and a processor (paragraph [0014]).

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-7 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art Jensen et al. (2002/0018554) in view of McCormack et al. (7,272,223).

As to claims 6 and 15, Jensen et al. does not teach reassigning at least one end-user of the virtual queue associated with the problematic situation to the front of another virtual queue from the plurality of virtual queues.

McCormack et al. teaches reassigning at least one user of the queue associated with the problematic situation to the front of another queue from the plurality of queues (col. 2, lines 25-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of McCormack into the teachings of Jensen in order to have a more efficient system by transferring callers / users from the problem queue to another queue in a situation where the call center does not have lots of new service agents available to reassign.

As to claims 7 and 16, Jensen and McCormack do not explicitly teach the queue associated with the problem queue is a priority queue. It would have been obvious to one of ordinary skill in the art that whether a queue is a priority queue or not, for any good professional customer service center or system, there is a need to load balance the queues in order to better serve customer.

***Allowable Subject Matter***

3. Claims 8-9 and 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 8 and 17, the prior arts of record fail to teach, or render obvious, alone or in combination a method for optimizing end-user service using a Virtual Queuing Support System comprising the claimed means and their components, relationships, and functionalities as specifically recited in claims 8 and independent claim 1 that claim 8 depends on.

Claims 9 and 18 are rejected because they depend on rejected claims 8 and 17, respectively.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sikora et al. (US Patent 6,449,646) teaches method and apparatus for allocating mixed transaction type messages to resources via an integrated queuing mechanism.


5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quynh H. Nguyen whose telephone number is 571-272-7489. The examiner can normally be reached on Monday - Thursday from 6:30 A.M. to 5:00 P.M. If attempts to reach the examiner by telephone are unsuccessful, the

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examiner's supervisor, Ahmad Matar, can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Quynh H. Nguyen**  
**Primary Examiner**  
**Art Unit 2614**